

## Table

The DataGridComponent provides a comprehensive data table solution with advanced features including sorting, filtering, custom cell templates, and responsive design. It uses a flexible column definition system with content projection for maximum customization.

**How to use**

- Import the component and its directives, then define your table structure with custom templates.

```
import { AavaDataGridComponent, AvaColumnDefDirective, AvaHeaderCellDefDirective, AvaCellDefDirective, AavaTagComponent } from "@aava/play-core";
```

**Basic Usage**

- Simple table with basic data display and column definitions.

Angular Preview Code

```
<div class = "demo-page"><!-- Demo Content --><div class = "demo-content"><div class = "container"><!-- Employee Table Section --><div class = "demo-section"><div class = "table-container"><aava-data-grid [dataSource] = "basicData" [displayedColumns] = "displayedColumns" class = "styled-data-grid"><ng-container avaColumnDef = "name"><ng-container *avaHeaderCellDef><div class = "header-cell"><span class = "header-text">Employee Name</span></div></ng-container><ng-container *avaCellDef = "let row"><div class = "data-cell name-cell"><span class = "employee-name">{{ row.name }}</span></div></ng-container></ng-container><ng-container avaColumnDef = "email"><ng-container *avaHeaderCellDef><div class = "header-cell"><span class = "header-text">Email Address</span></div></ng-container><ng-container *avaCellDef = "let row"><div class = "data-cell email-cell"><span class = "email-text">{{ row.email }}</span></div></ng-container></ng-container><ng-container avaColumnDef = "department"><ng-container *avaHeaderCellDef><div class = "header-cell"><span class = "header-text">Department</span></div></ng-container><ng-container *avaCellDef = "let row"><div class = "data-cell department-cell"><span class = "department-badge">{{ row.department }}</span></div></ng-container></ng-container><ng-container *avaCellDef = "let row"><div class = "data-cell status-cell"><aava-tag [label] = "row.status" [color] = "getStatusColor(row.status)" size = "sm"></aava-tag></div></ng-container></ng-container></aava-data-grid></div></div></div></div></div>
```

basicData = [ { id : 1 , name : 'Alice Johnson' , email : 'alice.johnson@example.com' , department : 'Engineering' , status : 'Active' , } , { id : 2 , name : 'Bob Smith' , email : 'bob.smith@example.com' , department : 'Marketing' , status : 'Active' , } , { id : 3 , name : 'Carlos Martinez' , email : 'carlos.martinez@example.com' , department : 'Sales' , status : 'Pending' , } , { id : 4 , name : 'Diana Lee' , email : 'diana.lee@example.com' , department : 'Engineering' , status : 'Inactive' , } , { id : 5 , name : 'Ethan Brown' , email : 'ethan.brown@example.com' , department : 'HR' , status : 'Active' , } ] ; displayedColumns = [ 'name' , 'email' , 'department' , 'status' ] ; /\* \* Get the appropriate color for status tags \*/ getStatusColor ( status : string ) : 'success' | 'warning' | 'error' | 'info' | 'default' { switch ( status . toLowerCase ( ) ) { case 'active' : return 'success' ; case 'pending' : return 'warning' ; case 'inactive' : return 'error' ; default : return 'default' ; } }

**Sorting**

- Table with sortable columns and visual sort indicators.

Angular Preview Code

```
<div class = "demo-content"><div class = "demo-section"><div class = "demo-card"><div class = "card-content"><aava-data-grid [dataSource] = "employeeData" [displayedColumns] = "displayedColumns"><ng-container avaColumnDef = "name" [sortable] = "true"><ng-container *avaHeaderCellDef> Employee Name </ng-container><ng-container *avaCellDef = "let row"> {{ row.name }} </ng-container></ng-container><ng-container avaColumnDef = "position" [sortable] = "true"><ng-container *avaHeaderCellDef> Position </ng-container><ng-container *avaCellDef = "let row"> {{ row.position }} </ng-container></ng-container><ng-container avaColumnDef = "salary" [sortable] = "true"><ng-container *avaHeaderCellDef> Annual Salary </ng-container><ng-container *avaCellDef = "let row"> ${{ row.salary | number }} </ng-container></ng-container><ng-container avaColumnDef = "experience" [sortable] = "true"><ng-container *avaHeaderCellDef> Experience (Years) </ng-container><ng-container *avaCellDef = "let row"> {{ row.experience }} years </ng-container></ng-container><ng-container avaColumnDef = "joinDate" [sortable] = "true"><ng-container *avaHeaderCellDef> Join Date </ng-container></ng-container></aava-data-grid></div></div></div>
```

```
ng-container > < ng-container *avaCellDef = " let row " > {{ row.joinDate | date }} </ ng-container > </ ng-container > < ng-container avaColumnDef = " department " > < ng-container *avaHeaderCellDef > Department </ ng-container > < ng-container *avaCellDef = " let row " > {{ row.department }} </ ng-container > </ ng-container > </ aava-data-grid > </ div > </ div > </ div > employeeData = [ { id : 1 , name : "Alice Johnson" , position : "Senior Developer" , salary : 95000 , joinDate : "2020-03-15" , experience : 8 , department : "Engineering" , } , { id : 2 , name : "Bob Smith" , position : "Marketing Manager" , salary : 75000 , joinDate : "2019-07-22" , experience : 6 , department : "Marketing" , } , { id : 3 , name : "Carlos Martinez" , position : "Sales Representative" , salary : 55000 , joinDate : "2021-11-08" , experience : 3 , department : "Sales" , } , { id : 4 , name : "Diana Lee" , position : "UX Designer" , salary : 70000 , joinDate : "2020-09-12" , experience : 5 , department : "Design" , } , { id : 5 , name : "Ethan Brown" , position : "Data Analyst" , salary : 65000 , joinDate : "2022-01-30" , experience : 2 , department : "Analytics" , } , { id : 6 , name : "Fiona Green" , position : "Project Manager" , salary : 85000 , joinDate : "2018-05-10" , experience : 9 , department : "Operations" , } , { id : 7 , name : "George Wang" , position : "DevOps Engineer" , salary : 90000 , joinDate : "2019-12-03" , experience : 7 , department : "Engineering" , } , { id : 8 , name : "Hannah Kim" , position : "Content Writer" , salary : 45000 , joinDate : "2021-08-15" , experience : 1 , department : "Marketing" , } , ] ; displayedColumns = [ "name" , "position" , "salary" , "experience" , "joinDate" ] ; salesData = [ { month : "January" , revenue : 125000 , orders : 340 , conversion : 3.2 } , { month : "February" , revenue : 135000 , orders : 385 , conversion : 3.8 } , { month : "March" , revenue : 142000 , orders : 420 , conversion : 4.1 } , { month : "April" , revenue : 128000 , orders : 365 , conversion : 3.5 } , { month : "May" , revenue : 155000 , orders : 445 , conversion : 4.3 } , { month : "June" , revenue : 168000 , orders : 478 , conversion : 4.6 } , ] ; salesColumns = [ "month" , "revenue" , "orders" , "conversion" ] ; Filtering ■ Advanced filtering capabilities with multiple filter conditions and operators. Angular Preview Code Features ■ Flexible Column System ■ Content projection-based column definitions Custom header and cell templates Configurable sorting and filtering per column Dynamic column visibility Advanced Sorting ■ Multi-column sorting support Visual sort indicators (ascending/descending) Configurable sort behavior per column Sort state management Powerful Filtering ■ Multiple filter conditions and operators Real-time filtering with search Filter panel with advanced options Clear and apply filter actions Custom Templates ■ Flexible cell content templates Custom header templates Template context with row data and index Support for complex cell content Responsive Design ■ Horizontal scrolling for wide tables Mobile-friendly design Adaptive column sizing Touch-optimized interactions Performance Optimized ■ OnPush change detection strategy Efficient data handling Optimized rendering Memory management API Reference ■ Inputs ■ Property Type Default Description dataSource any[] [] Array of data objects to display in the table displayedColumns string[] [] Array of column names to display Outputs ■ Property Type Description dataSorted EventEmitter<any[]> Emitted when data is sorted with sorted data Directives ■ AvaColumnDefDirective ■ Property Type Default Description avaColumnDef string - Column name/identifier (required) sortable boolean false Enable sorting for this column filter boolean false Enable filtering for this column AvaHeaderCellDefDirective ■ Property Type Description Template TemplateRef<any> Template for custom header cell content AvaCellDefDirective ■ Property Type Description Template TemplateRef<any> Template for custom cell content with context Interfaces ■ interface FilterCondition { label : string ; // Display label for filter condition value : string ; // Value for filter condition } Methods ■ Method Parameters Description onSort() column: AvaColumnDefDirective Handle column sorting applySort() None Apply current sort to data applyFilter() columnName: string, event: Event Apply filter to specific column clearFilter() columnName: string, event: any Clear filter for specific column openPanel() columnName: string, event: any Open filter panel for column checkForOpen() columnName: string Check if filter panel is open for column Properties ■ Property Type Description sortColumn string | null Currently sorted column sortDirection 'asc' | 'desc' | " Current sort direction sortedData any[] Currently sorted and filtered data filterColumn Array<{column: string, type: string, value: any, open: boolean}> Active filters defaultFilterConditions FilterCondition[] Available filter conditions CSS Custom Properties ■ The component uses CSS custom properties for dynamic styling: Container Properties ■ Property Description --grid-font-family-body Font family for table content --grid-text-color Text color for table
```

content --grid-background-color-odd Background color for odd rows --grid-background-color-even Background color for even rows --grid-border Border color for grid elements Table Properties ■ Property Description --table-border Border color for table elements CSS Classes ■ The component uses CSS classes for styling and state management: Container Classes ■ Class Description .ava-data-table-wrapper Main table container .data-table-wrapper Inner table wrapper with scrolling .ava-data-table Main table element Cell Classes ■ Class Description .cell-wrapper Header cell content wrapper .grid-column-container Column header container .filter Filter icon container .filter-wrapper Filter panel container .default-filter-actions Filter action buttons container .cell-link Link styling within cells State Classes ■ Class Description .sort-icon Sort indicator icon Various pseudo-classes Hover and focus states Best Practices ■ Data Structure ■ Use consistent data structure across all rows Ensure column names match displayedColumns array Provide meaningful default values for missing data Optimize data for sorting and filtering Column Definitions ■ Use descriptive column names Enable sorting only for relevant columns Enable filtering for searchable data Provide meaningful header labels Custom Templates ■ Keep cell templates simple and focused Use template context for row data access Implement proper error handling in templates Consider accessibility in custom content Performance ■ Limit data size for optimal performance Use OnPush change detection strategy Implement virtual scrolling for large datasets Optimize filter and sort operations Accessibility ■ Provide proper ARIA labels Ensure keyboard navigation support Use semantic HTML structure Maintain color contrast ratios Responsive Design ■ Test table on various screen sizes Implement horizontal scrolling for wide tables Consider mobile-specific interactions Optimize touch targets for mobile Accessibility ■ ARIA Support ■ Proper table semantics Sort and filter announcements Screen reader friendly navigation Status updates for dynamic content Keyboard Navigation ■ Tab navigation through table elements Arrow key navigation between cells Enter/Space activation for actions Escape key for closing panels Focus Management ■ Clear focus indicators Logical tab order Focus restoration after actions Focus trapping in modals/panels Screen Reader Support ■ Descriptive labels for actions Context information for data Status announcements Clear navigation structure Browser Support ■ Modern Browsers : Full support for all features CSS Grid/Flexbox : Required for layout ES6+ Features : Required for component functionality Template Ref : Required for content projection Change Detection : OnPush strategy support

```

<div class="demo-page">
  <!-- Demo Content -->
  <div class="demo-content">
    <div class="container">
      <!-- Employee Table Section -->
      <div class="demo-section">
        <div class="table-container">
          <aava-data-grid
            [dataSource]="basicData"
            [displayedColumns]="displayedColumns"
            class="styled-data-grid"
          >
            <ng-container avaColumnDef="name">
              <ng-container *avaHeaderCellDef>
                <div class="header-cell">
                  <span class="header-text">Employee Name</span>
                </div>
              </ng-container>
              <ng-container *avaCellDef="let row">
                <div class="data-cell name-cell">
                  <span class="employee-name">{{ row.name }}</span>
                </div>
              </ng-container>
            </ng-container>
          </ng-container>

          <ng-container avaColumnDef="email">
            <ng-container *avaHeaderCellDef>
              <div class="header-cell">
                <span class="header-text">Email Address</span>
              </div>
            </ng-container>
            <ng-container *avaCellDef="let row">
              <div class="data-cell email-cell">
                <span class="email-text">{{ row.email }}</span>
              </div>
            </ng-container>
          </ng-container>

          <ng-container avaColumnDef="department">
            <ng-container *avaHeaderCellDef>
              <div class="header-cell">
                <span class="header-text">Department</span>
              </div>
            </ng-container>
            <ng-container *avaCellDef="let row">
              <div class="data-cell department-cell">
                <span class="department-badge">{{ row.department }}</span>
              </div>
            </ng-container>
          </ng-container>

          <ng-container avaColumnDef="status">
            <ng-container *avaHeaderCellDef>
              <div class="header-cell">
                <span class="header-text">Status</span>
              </div>
            </ng-container>
            <ng-container *avaCellDef="let row">
              <div class="data-cell status-cell">
                <aava-tag
                  [label]="row.status"
                  [color]="getStatusColor(row.status)"
                  size="sm"
                ></aava-tag>
              </div>
            </ng-container>
          </ng-container>
        </aava-data-grid>
      </div>
    </div>
  </div>
</div>

---

basicData = [
  {
    id: 1,
    name: 'Alice Johnson',

```

```

        email: 'alice.johnson@example.com',
        department: 'Engineering',
        status: 'Active',
    },
    {
        id: 2,
        name: 'Bob Smith',
        email: 'bob.smith@example.com',
        department: 'Marketing',
        status: 'Active',
    },
    {
        id: 3,
        name: 'Carlos Martinez',
        email: 'carlos.martinez@example.com',
        department: 'Sales',
        status: 'Pending',
    },
    {
        id: 4,
        name: 'Diana Lee',
        email: 'diana.lee@example.com',
        department: 'Engineering',
        status: 'Inactive',
    },
    {
        id: 5,
        name: 'Ethan Brown',
        email: 'ethan.brown@example.com',
        department: 'HR',
        status: 'Active',
    },
];
displayedColumns = ['name', 'email', 'department', 'status'];

/**
 * Get the appropriate color for status tags
 */
getStatusColor(
    status: string
): 'success' | 'warning' | 'error' | 'info' | 'default' {
    switch (status.toLowerCase()) {
        case 'active':
            return 'success';
        case 'pending':
            return 'warning';
        case 'inactive':
            return 'error';
        default:
            return 'default';
    }
}

```

```

<div class="demo-content">
  <div class="demo-section">
    <div class="demo-card">
      <div class="card-content">
        <aava-data-grid
          [dataSource]="employeeData"
          [displayedColumns]="displayedColumns"
        >
          <ng-container avaColumnDef="name" [sortable]="true">
            <ng-container *avaHeaderCellDef>Employee Name</ng-container>
            <ng-container *avaCellDef="let row">{{ row.name }}</ng-container>
          </ng-container>

          <ng-container avaColumnDef="position" [sortable]="true">
            <ng-container *avaHeaderCellDef>Position</ng-container>
            <ng-container *avaCellDef="let row"
              >{{ row.position }}</ng-container>
            >
          </ng-container>

          <ng-container avaColumnDef="salary" [sortable]="true">
            <ng-container *avaHeaderCellDef>Annual Salary</ng-container>
            <ng-container *avaCellDef="let row"
              >${{ row.salary | number }}</ng-container>
            >
          </ng-container>

          <ng-container avaColumnDef="experience" [sortable]="true">
            <ng-container *avaHeaderCellDef>Experience (Years)</ng-container>
            <ng-container *avaCellDef="let row"
              >{{ row.experience }} years</ng-container>
            >
          </ng-container>

          <ng-container avaColumnDef="joinDate" [sortable]="true">
            <ng-container *avaHeaderCellDef>Join Date</ng-container>
            <ng-container *avaCellDef="let row"
              >{{ row.joinDate | date }}</ng-container>
            >
          </ng-container>

          <ng-container avaColumnDef="department">
            <ng-container *avaHeaderCellDef>Department</ng-container>
            <ng-container *avaCellDef="let row"
              >{{ row.department }}</ng-container>
            >
          </ng-container>
        </aava-data-grid>
      </div>
    </div>
  </div>
</div>

---

employeeData = [
  {
    id: 1,
    name: "Alice Johnson",
    position: "Senior Developer",
    salary: 95000,
    joinDate: "2020-03-15",
    experience: 8,
    department: "Engineering",
  },
  {
    id: 2,
    name: "Bob Smith",
    position: "Marketing Manager",
    salary: 75000,
    joinDate: "2019-07-22",
    experience: 6,
    department: "Marketing",
  },
  {
    id: 3,
    name: "Carlos Martinez",
    position: "Sales Representative",
    salary: 55000,
    joinDate: "2021-11-08",
  }
]

```

```

experience: 3,
department: "Sales",
},
{
id: 4,
name: "Diana Lee",
position: "UX Designer",
salary: 70000,
joinDate: "2020-09-12",
experience: 5,
department: "Design",
},
{
id: 5,
name: "Ethan Brown",
position: "Data Analyst",
salary: 65000,
joinDate: "2022-01-30",
experience: 2,
department: "Analytics",
},
{
id: 6,
name: "Fiona Green",
position: "Project Manager",
salary: 85000,
joinDate: "2018-05-10",
experience: 9,
department: "Operations",
},
{
id: 7,
name: "George Wang",
position: "DevOps Engineer",
salary: 90000,
joinDate: "2019-12-03",
experience: 7,
department: "Engineering",
},
{
id: 8,
name: "Hannah Kim",
position: "Content Writer",
salary: 45000,
joinDate: "2021-08-15",
experience: 1,
department: "Marketing",
},
];
displayedColumns = ["name", "position", "salary", "experience", "joinDate"];
salesData = [
{ month: "January", revenue: 125000, orders: 340, conversion: 3.2 },
{ month: "February", revenue: 135000, orders: 385, conversion: 3.8 },
{ month: "March", revenue: 142000, orders: 420, conversion: 4.1 },
{ month: "April", revenue: 128000, orders: 365, conversion: 3.5 },
{ month: "May", revenue: 155000, orders: 445, conversion: 4.3 },
{ month: "June", revenue: 168000, orders: 478, conversion: 4.6 },
];
salesColumns = ["month", "revenue", "orders", "conversion"];

```

■ No code found